The Occupational Outlook

A Current Supplement to the Occupational Outlook Handbook

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UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
in cooperation with
VETERANS ADMINISTRATION

The Occupational Outlook

UNITED STATES DEPARTMENT OF LABOR

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This publication is issued to provide counselors with current information on employment trends and outlook, based primarily on the continuous research and statistical programs of the Bureau of Labor Statistics. It supplements and brings up to date information in the Occupational Outlook Handbook, and supersedes the Occupational Outlook Review, formerly prepared for the Veterans Administration by the Bureau of Labor Statistics. It is prepared with the advice and assistance of the

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The Occupational Outlook

UNITED STATES DEPARTMENT OF LABOR • Bureau of Labor Statistics

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THE GROWING DEMAND FOR SCHOOL COUNSELORS

by Stewart C. Hulslander
and
Charles E. Scholl, Jr.*

Since the advent of public education in the United States, guidance has been available to some extent to pupils in the public schools. Historically, guidance was offered largely on an informal basis by teachers, who assisted pupils individually or in groups to make choices and adjustments. The quantity and quality of such guidance, however, varied greatly among teachers, schools, and States, ranging from a high degree of effectiveness as performed by some teachers to situations in which little or no guidance was afforded the pupils. The approach was hit-or-miss, offering no assurance that boys and girls who needed assistance would receive the kind and amount of help appropriate for them at the time it was needed.

By the turn of the century, recognition of individual differences among pupils began to increase. This recognition, coupled with observation of the difficulties encountered by many young men and women in occupational adjustment, marked the beginning of a trend toward guidance characterized in part by: (1) Awareness of the need for guidance assistance tailored to individuals; (2) an increased understanding of the complexities and the differences, both personal and environmental, which enter into the satisfactory adjustments of individuals; and (3) a need for additional competencies on the part of professional persons involved in the guidance of youth.

Concurrent with this trend came the development of "guidance services," which are now in integral part of many public schools in every State. While teachers continue to provide guidance assistance to students, many schools employ professionally trained counseling personnel to help teachers better perform their guidance roles and to provide direct guidance assistance to pupils in individual counseling or group settings.

The importance of these guidance services is obvious in view of the increasingly complex social and economic environment in this country, which demands of students realistic choices and sound decisions regarding the occupational, educational, and social problems involved in becoming well-adjusted men and women. Current problems such as juvenile delinquency, the high divorce rate, job dissatisfactions, and imbalance of manpower in scientific and other occupational fields are indicative of unsatisfactory adjustments of youth and adults, which expanded guidance services might help relieve or prevent.

Against this background of the adjustment needs of youth, a study of current and future demand for school counseling personnel was conducted in 1956 by the School of Education of the University of Michigan in cooperation with the U. S. Department of Labor's Bureau of Labor Statistics. This was a questionnaire survey which included a representative sample of the Nation's public elementary and secondary schools. Its aim was to provide information on manpower needs in the counseling profession which would be helpful to schools anticipating employment of guidance personnel, colleges and universities providing special training for guidance workers, and individuals whose vocational objective is to enter this field. It was also hoped that, through its usefulness to these groups, the information would ultimately benefit young people in need of guidance.

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A major problem in planning the survey was to define the term "counselor" in such a way that comparable information would be obtained from all schools. Since counseling personnel have a greater variety of titles and duties than members of many other occupational groups, there was danger of confusion owing to title differences. To eliminate this danger, principals were asked to ignore titles in supplying data on counselors and to include in their returns "only those persons who have released time primarily for individual counseling with pupils and for interpreting pupil data to teachers, school administrators, and parents." The figures obtained therefore may be assumed to include personnel with a variety of titles--such as principal, classroom teacher, visiting teacher, school psychologist, and school counselor--whenever their functions agreed with the definition.

This article presents the highlights of the survey findings with regard to the numbers of counselors employed in 1955-56, prospective demand for personnel, and the qualifications which principals emphasize in selecting counselors.

Recent and Prospective Employment Trends

Employment of school counselors has risen rapidly since World War II and will continue to mount during the next half decade.

The Nation's public schools employed approximately 44,000 counselors in 1955-56--including about 10,000 full-time counselors, 8,000 who spent half or more of their time but less than full time in counseling, and 26,000 engaged less than half time in counseling services. (See table 1.) These estimates may be compared roughly with those from a 1952-53 survey, which showed the total number of counselors in the United States to be about 19,000--8,000 engaged half time or more in counseling activities and 11,000 who spent less than half their time in such work. Because of differences between the two surveys, this comparison may exaggerate the rise in employment of counselors. Nevertheless, a marked increase in counseling personnel since the 1952-53 survey is clearly indicated--continuing the upward trend suggested by comparisons with less comprehensive data for earlier postwar years.[1]

With regard to future demand for school counselors, two types of information were obtained in the 1955-56 survey--estimates of the numbers of counselors principals would "ideally" like to have assigned to their schools by 1960-61 and estimates of the numbers they

[1] Arthur J. Jones and Leonard M. Miller, The National Picture of Pupil Personnel and Guidance Services in 1953 (reprinted from The Bulletin, National Association of Secondary School Principals of the National Education Association, Washington, D. C., February 1954, pp. 118-130).

TABLE 1. Employment of counselors, 1955-56, and expected employment 1960-61, by type of school and proportion of time released for counseling[1]

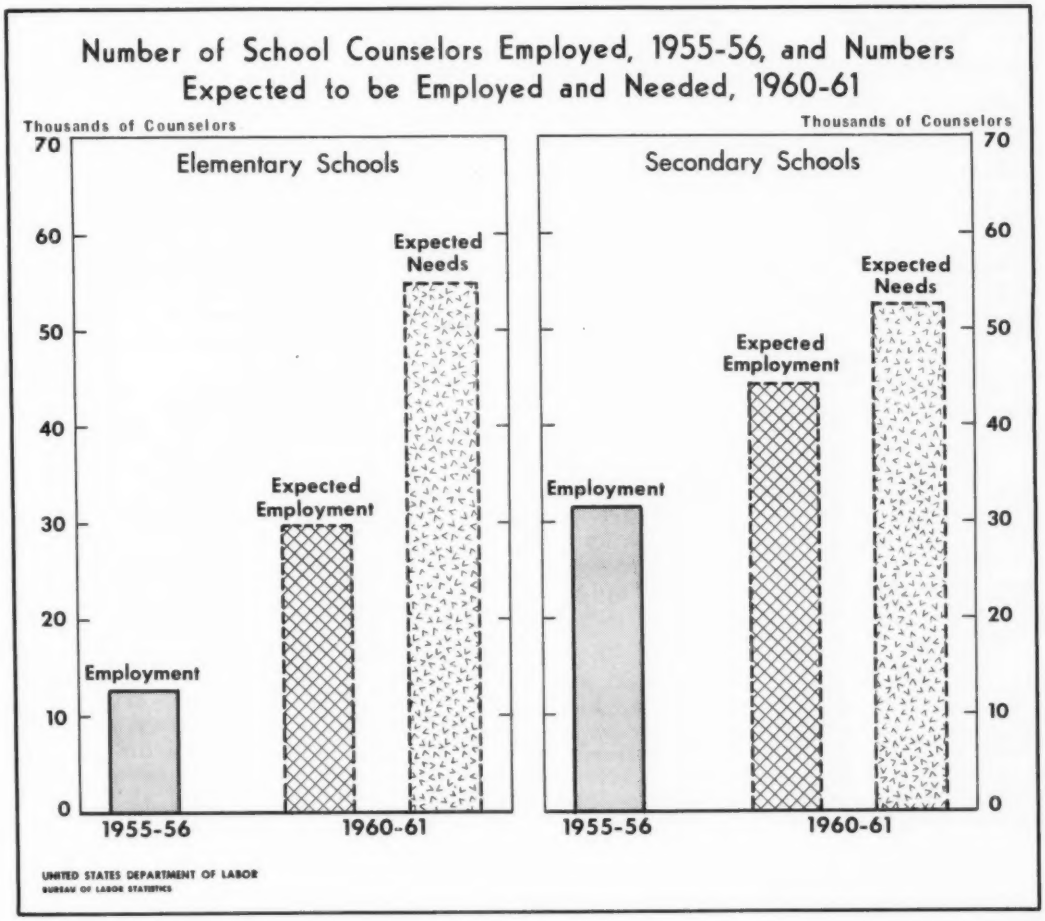
Proportion of time released for counseling	All public schools			Elementary schools			Secondary schools		
	Number employed, 1955-56	Number expected to be employed, 1960-61[2]	Percent increase	Number employed, 1955-56	Number expected to be employed, 1960-61[2]	Percent increase	Number employed, 1955-56	Number expected to be employed, 1960-61[2]	Percent increase
Total	44,300	75,100	70	12,600	30,900	145	31,700	44,200	39
Full time	10,400	21,000	102	2,800	8,000	186	7,600	13,000	71
Half time or more but less than full time	7,900	22,400	184	1,700	10,100	494	6,200	12,300	98
Less than half time	26,000	31,700	22	8,100	12,800	58	17,900	18,900	6

[1] Absolute numbers are rounded to nearest 100.
[2] These figures are based on the principals' realistic estimates of future counselor employment.

"realistically" expect to have on their staffs in that year. The ideal estimates indicate a prospective need for approximately 108,000 counselors by 1960-61, nearly 2-1/2 times as many as were employed in 1955-56. (See the chart.) However, the actual rise in counseling employment will probably be much smaller. According to the principals' realistic estimates, about 75,000 counselors will be employed in the public schools in 1960-61, roughly two-thirds more than in 1955-56.

Secondary schools have, so far, employed the large majority of counselors: In 1955-56, they employed about 32,000, or 72 percent of all public school counseling personnel. By 1960-61, the number of counselors in secondary schools is likely to rise to about 44,000, according to the principals' realistic estimates--which would represent nearly a 40-percent increase in the counseling staffs of junior and senior high schools over the 5-year period. On an ideal basis, secondary school principals indicated a need for approximately 53,000 counselors in 1960-61, or about one-fifth more than they realistically expect to employ.

In elementary schools, counseling personnel totaled about 13,000 in 1955-



56, only a fraction of the number assigned to secondary schools. However, a more rapid expansion in counseling staffs is believed to lie ahead in elementary schools than in high schools. Realistically, principals of elementary schools expect to employ about 31,000 counselors by 1960-61, or nearly 2-1/2 times as many as in 1955-56. However, an increase of this magnitude will fall far short of meeting anticipated needs. According to the elementary school principals' ideal estimates, the total number of counselors desired for these schools will be in the neighborhood of 55,000 by 1960-61, nearly twice as many as principals anticipate being able to employ at that time, and slightly more than the ideal estimate for secondary schools.

Principals also look forward to having relatively more counselors with most or all of their time released for counseling services. In both elementary and secondary schools, the number of faculty members assigned to counseling less than half time is expected to rise considerably less between 1955-56 and 1960-61 than the number of full-time counselors and the number who devote half or more of their time, though not full time, to counseling.

Employment of Counselors Related to Enrollments

In assessing the significance of the prospective increases in counseling personnel, an obvious first step is to compare them with the anticipated gains in enrollments. This comparison suggests that, over the next few years, employment of counselors will grow more rapidly than enrollments.

In 1955-56, the public schools had an estimated pupil enrollment of about 32 million, representing an average of 700 pupils per counselor. Enrollments are likely to rise to approximately 38 million in these schools by 1960-61.[2] Nevertheless, the average number of pupils per counselor will be down to about 500 in that year, assuming a realization of the realistic forecasts of counselor employment. The ideal estimates of personnel needs of course imply a much greater decrease in the average number of students per counselor (to about 350 by 1960-61).

These overall ratios do not indicate the great variation among schools in the number of students per counselor. In general, there are many more pupils per counselor in elementary than in secondary schools (probably about five times as many, on the average, according to the results of this survey). Furthermore, in some schools in each category the pupil-counselor ratio is far below the national average for schools of the given type. Other schools have no counselors within the definition used in the study, although they may have many faculty members without released time for individual counseling who function to some extent in this area. The overall ratios thus carry with them no implication that the ratio of pupils to counselors in a particular school is satisfactory or unsatisfactory. To arrive at a meaningful standard would involve consideration of many variables not dealt with in this study.

The findings regarding numbers of pupils per counselor have, however, a broad significance from the standpoint of the employment outlook. The fact that principals expect counseling staffs to expand faster than enrollments is highly encouraging. It suggests a growing recognition on the part of school administrators and the general public of the importance of guidance services. Furthermore, the great difference between the pupil-counselor ratios based on the principals' realistic estimates and those derived from their idealistic evaluations of personnel needs is an indication of how much room there will be for further progress--both up to and beyond 1961.

Factors Limiting Employment

Some of the factors which will tend to restrict counseling employment

[2] Based on projections prepared by the U. S. Office of Education in March 1956.

below the desired numbers were described in interviews with a few principals, chosen from among those sending in questionnaires in the statistical survey. The inhibiting factors which the principals considered most important were: (1) Limited budgets; (2) other special school and community services regarded by some as substitutes for counseling and guidance programs in schools; (3) Boards of Education that do not favor counseling and guidance programs; (4) opinions held that teachers satisfactorily perform all counseling functions; (5) lack of knowledge of guidance and counseling on the part of school administrators; and (6) lack of available trained counseling personnel.

Preferences for Men and Women Counselors

Two kinds of information relating to employment opportunities for men and women in school counseling were obtained through this survey--estimates of the numbers of counselors of each sex currently employed in different types of schools and statements from principals as to their preferences with respect to future assignment of men and women to counseling positions.

Women counselors are in the majority in urban elementary schools; in 1955-56, they represented about two-thirds of all counseling personnel in such schools. They also outnumber men counselors in urban secondary schools, but by a much smaller margin. On the other hand, secondary schools in rural and suburban areas employ substantially more men than women counselors, and in elementary schools in rural and suburban locations, the numbers of counselors of the two sexes are about equal, taking all schools together. (See table 2.)

These differences in the proportions of men and women counselors may well become smaller in the future, since no widespread preference for personnel of either sex was indicated by the principals. The majority of them said they would prefer to have both men and women on their counseling staffs. The proportion expressing this point of view was highest (over 90 percent) in urban secondary schools, and at least 60 percent in all types of schools for which data were compiled. Principals who said they had no preference with regard to the employment of men or women counselors were the next largest group in all types of schools. The few who wished to hire only counselors of one sex were offset by

TABLE 2. Employment of men and women counselors, by type of school, 1955-56[1]

Type of school	Total number	Men counselors		Women counselors	
		Number	Percent of total	Number	Percent of total
All types	44,300	20,300	46	24,000	54
Elementary	12,600	4,700	37	7,900	63
Rural-suburban	4,300	2,100	49	2,200	51
Urban.....	8,300	2,700	32	5,700	68
Secondary	31,700	15,600	49	16,200	51
Rural-suburban	8,800	5,300	60	3,600	40
Urban	22,900	10,300	45	12,600	55

[1]Absolute numbers are rounded to nearest 100, and items therefore do not add to totals in all cases.

TABLE 3. Principals' preferences regarding employment of men and women counselors, by type of school, 1955-56

Type of school	Total	Percent of principals with preference for--			Percent of principals having no preference
		Both men and women counselors	Men counselors only	Women counselors only	
All types	100	68	5	5	22
Elementary	100	61	6	8	25
Rural-suburban	100	60	3	7	30
Urban	100	62	8	9	21
Secondary	100	80	3	1	16
Rural-suburban	100	73	5	1	21
Urban	100	92	1	1	6

the few who wished to hire only those of the other (table 3). Thus, the future holds promise of many opportunities for both men and women in the counseling profession.

Qualifications of Counselors

To obtain some indication of the qualifications most generally possessed by school counselors, six important types of qualifications were listed in the questionnaire and principals were asked to report which were most common among their counselors.

A teaching certificate was found to be more common than any of the other listed qualifications, both among elementary and among secondary school counselors. Teaching experience in some school system before entry into counseling was the qualification next most common among counselors in both types of schools. Following that (in the indicated order in the case of elementary school counselors and a slightly different one in the case of secondary school counselors) were these three factors: Graduate study in guidance, work experience outside school teaching, and teaching experience in the particular school system in which the counselor was employed at the time of the survey.

The sixth factor listed was State certification of counselors. This was the least common of the six factors among both elementary and secondary school counselors since special certification for counselors is not provided for in all States.

Finally, in order to look ahead toward the factors that will be emphasized most in future selection of counseling personnel, principals were given another list of six qualifications and asked to indicate which of these they would consider most important in choos-

TABLE 4. Principals' rankings of qualifications important in choosing counselors

Type of qualification	Ranking according to selections by--	
	Elementary school principals	Secondary school principals
Personality factors, such as emotional stability and maturity	1	1
Successful teaching in any school system before entry into counseling	2	2
Graduate study in guidance	3	2
Previous counseling experience in school or nonschool setting	4	5
Successful teaching experience in the local school system before entry into counseling	5	6
Work experience outside of school teaching	6	6

A rank of 1 indicates the qualification selected as of predominant importance by the most principals; a rank of 6 indicates the one cited by the fewest principals.

ing counselors for their schools. Table 4 shows this list of qualifications, with ranking numbers to indicate which factors were selected as of predominant importance by the most principals.

As would be expected, there were differences between elementary and secondary school principals in the degree of emphasis on some of the factors. Thus, work experience outside of school teaching was selected as most important by relatively more secondary than elementary school principals, presumably because of the particular relevance of such experience to vocational counseling of high school students. Nevertheless, fairly widespread agreement was found among principals in both types of schools that, when selecting counselors in the future, they would give greatest weight to personality factors.

FEDERAL SERVICE ENTRANCE EXAMINATION NOW OPEN TO COLLEGE JUNIORS

The Federal Government, to further improve its position in the competition for talented college people, is opening its Federal Service Entrance Examination this year to college juniors, in addition to seniors, college graduates, and others of equivalent experience. Appointments, effective after graduation, may be offered both juniors and seniors if they rank high enough on the lists of eligibles to be established on the basis of the examination.

The Federal Service Entrance Examination, first given 2 years ago, is designed to help fill the Government's yearly need for more young people of college caliber who can be placed in jobs at the entrance level and who have the potential to develop into the top managers, technicians, and specialists of the future. Positions filled through the examination are in almost every kind of work. During fiscal year 1957, more than 7,500 job appointments in 175 different occupations were made of persons who passed the examination. The Civil Service Commission estimates that during the next 12 months at least the same number of entrance-level jobs, at salaries ranging from $3,670 to $4,525 a year, will be filled from the Federal Service Entrance Examination lists of eligibles.

Federal Service Examinations will be held in January, February, March, and May 1958, at approximately 1,000 examination points throughout the country. These points are listed on Form AN-2301. Applications for the examination should be made on Form 5000-AB. Both these forms (or information on where to get them) are available from the U. S. Civil Service Commission, Washington 25, D. C., or from any post office or Civil Service regional office.

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SHORTAGES OF SCIENTISTS --
A GENERAL PROBLEM IN WESTERN COUNTRIES

The shortages of scientists and engineers in the United States which have received so much publicity since World War II have been paralleled by similar shortages in Canada and in most western European countries. This is the major finding of a report recently issued by the Organisation for European Economic Co-operation on the basis of a study of scientific manpower problems in 17 countries. The shortages are of general concern, the OEEC points out, because technical progress, essential to the improvement of living standards and to national security, depends on an adequate supply of scientific and engineering personnel.

The rapid increase in demand for such workers in the postwar period in all countries is brought out in the report. The number of scientists and engineers trained increased greatly, too, but not as much as the demand. The need for additional personnel is particularly acute in teaching, both in the United States and in other countries, and shortages in this area cause special concern because of their implications for the quality of scientific education and the future supply of technically educated workers.

Better vocational guidance is stressed as one approach to relieving the shortages. Other recommendations call for more complete factual studies of the needs for and supply of technically trained workers, for increasing the flexibility of curriculums, for attracting more women into such scientific and engineering careers, for better utilization of scientists and engineers by industry, and for improving the pay scales and career possibilities in these fields.

"Basically," the report states, "this is a problem of education.... In each country there is only a certain proportion of the population that is capable of mastering the higher branches of scientific knowledge, and it is therefore important to give them every opportunity to develop their talents. This can be done only if many more young people are given an opportunity to acquire higher education."

This report, The Problem of Scientific and Technical Manpower in Western Europe, Canada, and the United States, is available from the Organisation for European Economic Co-operation Headquarters, Distribution and Sales Section, 33 rue de Franqueville, Paris 16, France.

MARRIAGE AND CAREERS FOR GIRLS

A New Study of Work-Life Patterns of Women Throws Light on an Old Problem

by Stuart H. Garfinkle

The chances that a woman will spend a substantial part of her lifetime in paid jobs are so great today that training for jobs outside the home has become an important part of a girl's education. In recent years, there has been an extremely rapid rise in the proportion of married women at work. Having children is the most important factor curtailing employment of women, but if today's work patterns continue, a great many young women can expect to have jobs after their children are in school and should prepare for this eventuality. Altogether, about 3 out of 10 married women are currently employed; they comprise about 20 percent of the Nation's workers.

Why have married women been able to enter into the labor force in such great numbers in recent years? One of the most important reasons has been the rapid growth of cities, where employment opportunities for women are much better than in rural areas. Another important factor has been the expansion of industries, such as trade and service, where women are employed in large numbers. The acceptance of women in positions formerly held mainly by men has also opened up many jobs for women. A notable example is the advance of women into clerical occupations; in 1940, about one-half of all persons employed in clerical occupations were women, compared with about two-thirds in 1956. Employers have encouraged women to work by arranging shorter workweeks for them, especially in trade establishments. Between 1948 and 1956, the number of women over age 35 working on a part-time basis in nonagricultural industries increased from 1.7 million to 3.0 million--an increase of 75 percent--while the total number of women workers over 35 years of age increased less than 50 percent. In addition, a general decline in the workweek has indirectly contributed to the number of women workers by giving husbands more time to help them with household chores.

The invention of a great many devices designed to make housekeeping easier and less time-consuming has also helped women to take jobs. Outstanding examples are automatic washing machines, dryers, vacuum cleaners, dishwashers, and packaged and frozen foods. Refrigerators and freezers have made it possible to shop only once a week instead of several times. In addition, service industries, such as laundries and dry cleaning, have expanded to handle tasks which were formerly taken care of by the housewives. (To some extent the growth of these industries is the result, as well as the cause, of many women entering the labor market--a woman who works is likely to become a customer of these establishments.)

It is important to note, however, that although more and more married women are entering the labor force, 7 out of 10 of them still do not work outside the home. In this country, women have traditionally been the homemakers and men the breadwinners.

Patterns of Working Life for Women

Because of the increasing importance of women in the work force, the U. S. Department of Labor's Bureau of Labor Statistics has made an intensive study of the patterns of working life of women.[1] This study is of interest to vocational counselors because it indicates the likelihood of working outside the home at various stages in a woman's

[1] Tables of Working Life for Women, 1950 (BLS Bull. 1204).

life. The study takes a group of 100 girl babies and, on the basis of the marriage, childbearing, and death rates for women at each age as of 1950, shows what would happen to these girls in each year of their lives--how many would die each year, how many would marry, how many would have children, and how many would be at work.

The findings with regard to life expectancy are shown in chart 1. Out of 100 girl babies born, 96 are still alive at age 14. Seventy-five are still alive at age 64. After age 65, death takes a rapidly increasing toll.

Chart 1 also shows how many of the original 100 women are married and how many have children at each age. Of the original 100 girl babies, 48 have married by age 20 and 86 have married by age 30. The number of married women with preschool children (under 5 years of age) rises rapidly from 27 at age 20, to 50 at age 30, and then declines sharply. By age 50, very few women have young children.

Charts 2 and 3 indicate how important marriage and children are in the working lives of women. The figures on women workers in these charts show a rise in employment up to about age 20, when most women workers are single. After that, the numbers of women working drop off for a while, but they rise to a second peak at age 40, when most married women no longer have the responsibility of young children. At the first peak, 45 of the original 100 are at work; and of these 45, 32 are single. At the second peak, there are 34 working women of whom 28 have married and 20 are mothers whose children have all reached school age.

The work careers of most women begin at about age 17 or 18--at the time of graduation from high school. Although a few girls marry immediately after high school and some go on to college, most of them go to work. A job enables girls to support themselves and help their families, provides opportunities for social contacts, and makes it possible for them to save money for their future homes.

Furthermore, in recent years young people have found it easy to get jobs because of generally favorable economic conditions and the relatively small numbers who have reached working age each year. Young women just out of high school have also been able to find work more easily because a high proportion of women in their early twenties leave their jobs to marry and have children. One out of ten women in the age group 20 to 24 leaves the work force each year because of marriage and the birth of children; in contrast, virtually no men in this age group leave the work force.

By age 20, half of all girls are married and some drop out of the labor force, but a majority continue to work to supplement their husbands' incomes and provide the extra money needed to establish a household and to prepare for the arrival of children. Nowadays, many girls marry men who are still in college and they continue to work until their husbands get their degrees. This pattern developed after World War II, when large numbers of veterans were in colleges, and has continued. In 1956, about 30 percent of all men attending college were married.

The birth of children is by far the most important factor inducing women to stay at home. Most married women stop work when their first child arrives, and caring for young children continues to keep them in the home at least until the youngest child is in school. Even among women with preschool-age children, however, as many as 1 in 7 work. The reasons why women with young children work are usually related to low family income; their husbands are sick, unemployed, or have such low-paying jobs that they are unable to support their families. Among women with young children, low income is not the only explanation for working; some women have others take care of their babies in order to retain high-paying jobs.

There is a tendency these days to marry young, to start having children

OF 100 GIRL BABIES BORN ALIVE:

Chart.1 At age 20, 48 are Single, 48 have Married, and of these 28 are Mothers

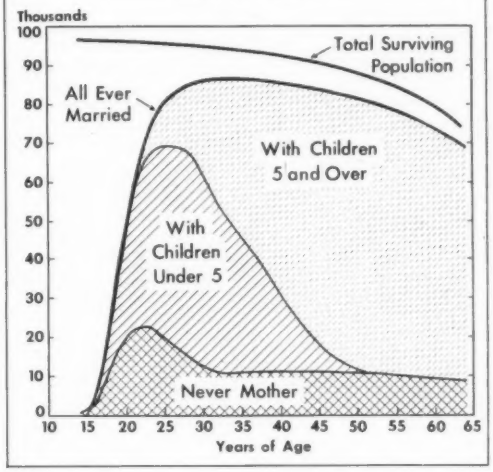


Chart 2. At age 20, 45 are Working and 32 of these are Single

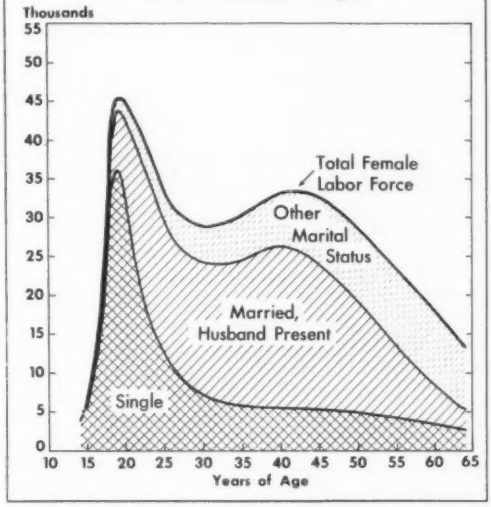
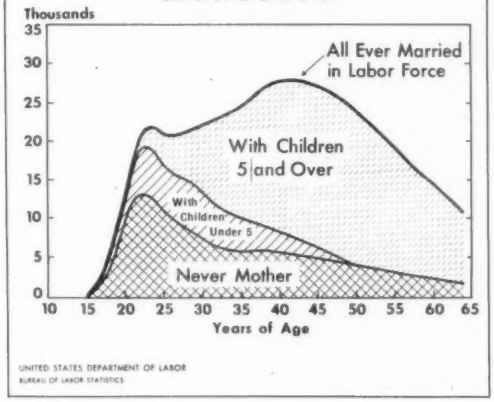


Chart 3. By age 45, 27 of those who Married are Working and 21 of these have Children 5 and over



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a year or two after marriage, and to have succeeding children about 2 years apart. Most women, therefore, are younger when their families are completed and their youngest children are in school than were women in their mothers' generation. Typically, the first child is born when the mother is 22, the second at 25, and the third when the mother is 27. By their early thirties, women who have only 2 or 3 children no longer have responsibility for the care of preschool age children and can return to paid employment. Those who go back to work after their youngest child is in school have been out of the labor force about 8 to 10 years, on the average.

The extent to which women return to work after the youngest child is enrolled in school is indicated by the fact that the proportion of employed women is more than twice as high among women with children of school age as among women with younger children. Here again, the reasons for working are largely economic. In addition to the usual pressures for raising living standards, families frequently have a backlog of expenditures which were deferred during years when the children were young. Furniture and automobiles need to be replaced, and homes bought when the families were small are not large enough. As the children get older, expenses of running the home go up. Increasingly, families are planning to send their children to college and many can build up funds for this purpose only by having the wife take a job outside the home. In addition, women often go to work to pay for emergency expenses, such as hospital and dental bills, and to make up for losses in income when their husbands become ill.

Economic pressures, however, are not the only reason why women take jobs when their children are in school. Many women left alone during the day for the first time when their children enter school, go to work in order to be more fully occupied and to obtain the companionship that most jobs offer. Relatively few women over age 45 still have children who are under 5 years of age and they are therefore in a much better position to take jobs. Thirty-six percent of women at age 45 are at work--the same proportion as for women aged 25.

Beginning at about age 45, more and more women become widows and some who are not well provided for must go to work. Almost 1 out of every 5 married women between the ages of 45 and 54 is widowed, divorced, or separated from her husband, and well over half of these women work, for psychological as well as economic reasons.

Work-Life Expectancy

In addition to showing the patterns of working life of women, the Bureau of Labor Statistics study includes estimates of the number of years that women can expect to work. It is based upon the same general techniques that are used to measure life expectancy. The fact that girl babies have a 50-50 chance of living to age 73 is rather generally known. The BLS study relates the average remaining years of life at each age to the average length of time that women will work during their lifetime.

Although most girls expect, quite correctly, that they will marry and have children, the fact remains that 1 out of 10 women will not marry. Single women generally work most of their lives. A girl who remains single and begins a work career at age 20 will probably continue to work about 40 years--almost as long as men of the same age. Those who are not married by age 35 are likely to remain single. They will probably work an additional 27 years.

Girls who marry but have no children (about 1 out of 10 married women) are also likely to work a long time. A 20-year-old married woman without children can expect to work 31 years if she remains childless--some 9 years less than a single woman. By age 35, most childless married women are likely to remain childless and they can expect to work about 20 years--some 7 years less than single women of the same age. The

shorter work life of the married women is undoubtedly due to the fact that single women as a group are subject to more severe economic pressures than married ones. For example, married women are often able to stop work when minor disabilities occur or when they no longer feel like working, whereas single women must go on working to support themselves.

Married women with children--by far the largest group--have a considerably shorter work-life expectancy than either single women or childless married women. If a girl begins a work career at 18, she can reasonably expect to work for about 4 years--until she is married and her first child is born. If she resumes a work career at age 30, after her youngest child is in school (and almost a third of all mothers with children of school age work), she will probably be employed another 23 years. All of this adds up to a total expected working life of 27 years--some 15 years less than for single women and 18 years less than for men, but nevertheless a very substantial period representing about two-fifths of the average woman's total life expectancy.

Conclusion

Altogether, this study of working life patterns shows that most women will work for pay sometime during their lives and that many will spend the greater part of their lifetime at work. Contrary to the expectations of many high school girls, marriage in itself provides no assurance that they will not return to work in later years. They should, therefore, prepare themselves for the possibility of many years of employment. Careful career planning can produce thousands of dollars of additional income over a period of years, as well as a great deal of personal and job satisfaction.

CAREERS IN MATHEMATICS FOR WOMEN

The job outlook is promising for the girl who prepares herself for the opportunities in mathematics in the years ahead. The demand for mathematicians now exceeds the supply and is growing. Some of the opportunities for women with math training are in teaching, the computer field (work with electronic "brains"), scientific research, statistics, actuarial work, and accounting. Those who are fully trained are finding jobs on all levels and in all areas of mathematics.

These are the highlights of a new leaflet, Is Math in the Stars for You?, issued by the U. S. Department of Labor's Women's Bureau to inform young girls of the opportunities in this field. The leaflet is available at 5 cents a copy from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

EMPLOYEE EARNINGS IN RETAIL TRADE IN OCTOBER 1956

A series of eight bulletins, recently issued by the U. S. Department of Labor's Bureau of Labor Statistics, provides information on the straight-time hourly and weekly earnings of nonsupervisory employees in retail trade (except in eating and drinking places). Earnings data for both men and women are shown for the United States and four broad regions, classified by size of community and by number of stores operated by company.

The reports may be purchased, at the prices listed, from the Superintendent of Documents, Washington 25, D. C., or from the Bureau of Labor Statistics regional offices, which are listed on page 2 .

BLS Bull. No.	Title	Price
1220	Retail Trade (A summary bulletin)	30 cents
1220-1	Building Materials and Farm Equipment Dealers	20 cents
1220-2	General Merchandise Stores (Separate data for department stores and for variety stores	35 cents
1220-3	Food Stores (Separate data for grocery stores)	30 cents
1220-4	Automotive Dealers and Gasoline Service Stations (Separate data for franchised motor vehicle dealers, and for gasoline service stations)	35 cents
1220-5	Apparel and Accessories Stores (Separate data for men's and boys' clothing stores, women's ready-to-wear stores, and shoe stores)	45 cents
1220-6	Furniture, Home Furnishings, and Appliance Stores (Separate data for furniture and homefurnishings stores and for household appliance and radio stores)	35 cents
1220-7	Drug Stores and Proprietary Stores	15 cents

EMPLOYMENT OUTLOOK IN THE BAKING INDUSTRY*

by Sol Swerdloff

Until fairly recent times, the commercial baking business was made up of small shop owners who used methods not much different from those of the Romans. The rapid industrialization and the social changes of the past century have established baking as one of our major manufacturing industries. Small bakeshops are still found in many of our neighborhoods, but the vast bulk of the bakery products consumed by the American people are made in modern factory-type bakeries using advanced methods and equipment. More than a quarter of a million persons are employed by baking firms to make bakery products and to distribute them to hundreds of thousands of retail stores, homes, and restaurants. Instead of the combination craftsman-shop owner of former times who had perhaps an apprentice or helper or two, a baking firm now may employ a wide range of specialized workers.

The baking industry employs persons of varied interests and talents. For those who like to use their hands as well as their minds, it provides hundreds of opportunities each year to learn a skilled trade as an all-round baker or as one of the skilled specialists in the baking process. For persons who like to go out and meet people and sell, it offers jobs as driver-salesmen and sales supervisors. For those mechanically inclined, the industry has openings for persons to maintain and repair the increasing amount of machinery and equipment used in today's modern bakery. For those who like to work in an office, there are the usual types of clerical jobs. The industry also employs many administrative and managerial specialists to direct the operations of the more than 6,000 establishments.

*This article is the first of a series reporting on fields of work which could not be covered in the 1957 Edition of the Occupational Handbook. It is part of the Bureau's continuing program of occupational outlook research.

The Baking Industry

Baked foods are made by several types of baking firms. The bread we buy from our grocers comes from large wholesale or chain store bakeries, which employ more than half of the industry's workers. Many of us have our baked foods delivered daily to our homes. There are several hundred bakeries which sell their products in this manner. Cakes, pies, and other baked foods may be bought in neighborhood shops. In some cases, these bakery products are made and sold on the same premises. Often, however, they are made in a central bakery which has a number of retail outlets. The bread and pies served in restaurants are usually made in one of the many bakeries that sell mainly to hotels, restaurants, and institutions.

The baking industry, with more than a quarter of a million employees, ranks well up in size among the manufacturing industries. The industry's 6,100 establishments annually produce more than $3 billion worth of bread, cakes, doughnuts, pies, rolls, and other bakery products. In addition, there are 12,000 single-shop retail bakeries with baking on the premises, which employ approximately 75,000 persons and have annual sales of about $700 million.

Since bread and other products must be delivered soon after they are baked, the industry is a local one. Almost every sizable community has at least one bakery. This is important to a young person considering a career in the baking industry, for it means that there are job opportunities in his own community; also, after he has gained experience in the baking industry, he may be able to get other baking jobs in almost any part of the country.

Because bakeries must be located near their customers, the geographical

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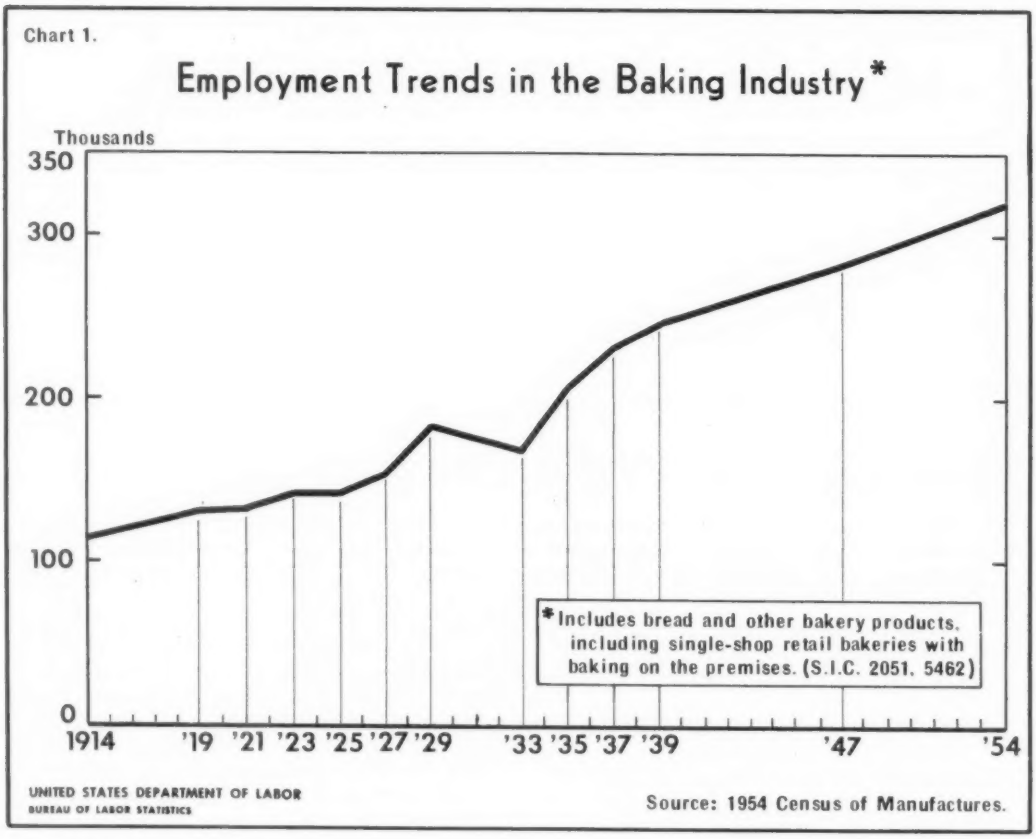
distribution of the industry is very similar to the concentrations of urban population within the Nation. The 10 leading States in population, which have about three-fifths of the total city and town population, also include about three-fifths of the baking industry's workers.

The typical bakery is small, as industrial plants go, but there are also many large bakeries. The 1954 Census of Manufactures reports some 6,100 bakeries with a total of 246,000 employees, or on the average, about 40 employees per plant. These figures, however, hide the great variation in the size of individual bakeries. The Census shows that there were 9 plants in the country with more than 1,000 employees each, and 33 plants with 500 to 1,000 employees. These 42 bakeries employed about 14 percent of the industry's workers. On the other hand, more than half of the plants (3,200) had less than 10 employees; together, these plants employed only 13,500 workers, less than 6 percent of the industry's total. The local nature of the market accounts for most of the variation in size of baking plants. Some bakeries with fleets of trucks serve markets up to 75 or 100 miles distant, but most industrial bakeries serve only their own community or in some cases only a particular neighborhood. Thus, in the smaller communities, baking establishments are likely to be rather small.

Chart 1.



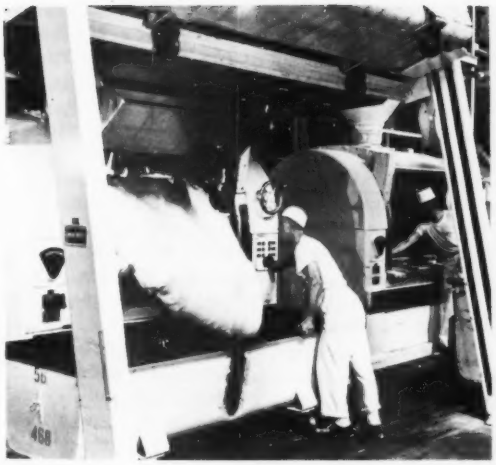
Baking Jobs

Anyone interested in a career in the baking industry will want to know about the variety of job opportunities which it offers. One of the many interesting production jobs may appeal to some young persons. Those who like meeting the public may find work as driver-salesmen attractive. There are also many opportunities in administrative positions for persons with a flair for organizing and directing the work of others and who have the necessary educational background. Many baking jobs are open to women, who make up about 20 percent of the industry's work force.

The largest group of workers is in jobs directly concerned with the baking process, or with keeping the plant in operation. In addition to workers performing the actual baking operations, this group includes workers engaged in receiving and storage of raw materials and maintenance and repair of plant machinery and equipment. Altogether, these plant workers account for about three-fifths of the industry's total employment. The workers who distribute fresh-baked foods to stores, homes, or eating places are of key importance to the success of a baking firm. Sales personnel--including wholesale drivers, routemen delivering directly to homes, and sales supervisors--make up about one-fourth of the work force, a very high proportion for a manufacturing industry. The remaining one-sixth of the employees are in administrative, supervisory, professional, or clerical jobs.

Let us look in more detail at some of the more important occupations in the baking industry.

Bakers. In very small bakeries and in bakeries distributing through their own retail stores, all-round bakers, assisted by helpers, usually carry on a large part of the baking operations. In the first case, the small quantities produced, and in the second, the great variety of the products, make it difficult to divide up the baking process into specialized tasks. Consequently, the all-

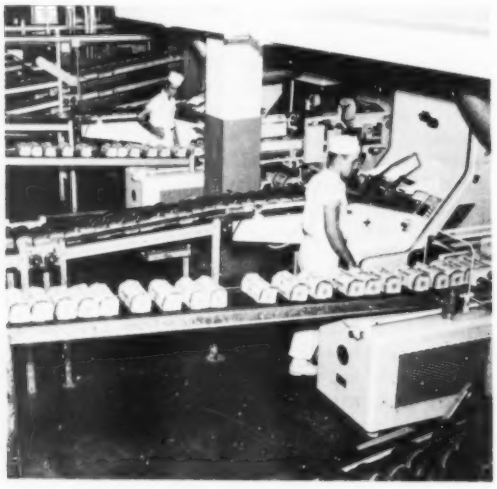


round bakers carry through all the steps needed to turn out a finished product. The bigger bakeries with large volume output employ bakers as working foremen who are responsible for a particular phase of the production operation, such as mixing or baking. They must not only be competent to handle the process of which they are in charge, but they are also responsible for the efficient functioning of both the men and machines in their department. They must coordinate the work of their department with the production schedules of other departments.

Baking Specialists. In addition to these bakers, the large bakeries also employ many persons who specialize in a particular baking operation. Many of these specialists are qualified to do all or a number of baking operations, but generally spend all of their time on a particular part of the process. These workers perform such tasks as feeding and unloading machines, observing their operation, and visually or physically inspecting the output. Among these specialists are mixers, dividermen, moldermen, benchmen, and ovenmen. Mixers, dividermen, and moldermen operate machines performing essential operations in the baking process. Benchmen knead and shape dough by hand to form the dough

into specially shaped bread, rolls, or cookies prior to baking. Ovenmen control the baking of a particular product, such as bread, cakes, or pies by regulating the baking time, temperature, and humidity of the oven, guided either by a fixed schedule or by watching the physical appearance of the baking article.

Other Plant Jobs. In addition to the skilled baking specialists, bakeries employ wrapping machine operators and slicing machine operators. These men feed and unload the wrapping or slicing machines and are responsible for their proper adjustment and operation. Bakeries, especially those which specialize in "sweet goods," employ a considerable number of persons in their icing departments. Icing mixers prepare icings and fillings in accordance with prepared recipes or formulas. The work of the mixers involves weighing and measuring ingredients, preparing cooked fillings by placing ingredients in a kettle and controlling the heating and blending process. Bakeries employ many persons in their storage, warehousing, and shipping units. Receiving and stock clerks check and keep records of incoming raw materials used in making baked goods and issue them to various departments. Packers and checkers make up orders of bakery products for driver-salesmen.



Bakery establishments employ several thousand skilled workers and helpers to keep the large amount of machinery and equipment in repair. The smaller and medium size plants employ mechanics (with various titles such as maintenance men, machinery repairmen, or engineers) who do general repair work on the many types of equipment in the plant. These workers must be skilled in several different trades, using the various tools needed, rather than specializing in one trade or type of maintenance work. Their work involves examining machines and mechanical or electrical equipment to diagnose source of trouble, dismantling or partially dismantling machinery or equipment, and performing the needed repairs. The larger plants may employ skilled maintenance specialists, such as electricians, stationary engineers, machinists, and maintenance mechanics.

Sales Workers. Getting the bakery products on the grocer's shelves or to places where they are consumed occupies about one-fourth of the industry's workers. For bakeries selling primarily to grocery stores, bread and other baked goods are distributed by the driver-salesman on his route. The driver-salesman starts his route early in the morning, stopping at from 10 to 50 grocery outlets. At each of these stops, the salesman brings the bread and other products into the store and fixes the display of the bakery products on the rack. He makes an accounting to the grocery store owner or manager for the merchandise left, and both credits the store for the stale products picked up and collects for the net amount of the products left. The trucks are loaded the night before or early in the morning, and the driver checks his own load before leaving early in the morning to cover his route. Usually by midafternoon, the driver returns from his route and checks in with the cashier and returns any stale merchandise. He also makes up a list of products he plans to deliver the next day; these lists represent his best estimate of the amount of products that will be sold by the grocery stores on his route. The production manager of the plant takes these esti-

mates from all the routes and, using various past records, makes up the production schedule for the bakery. In plants where there are a number of routes, route supervisors are employed to supervise groups of routes, usually from 6 to 10. If one of the men is absent, the supervisor takes the route over for the day or until the salesman returns. Another duty of the route supervisor is to train new driver-salesman.

In direct distribution of bakery products to the home, the driver-salesman regularly calls on the housewife, generally 3 or 5 times a week, with a basket containing a variety of bakery products--sweet rolls, cakes, and pies, as well as bread and rolls. He may make as many as 200 or 300 stops a day.

The typical distributive arrangement in bakeries operating a number of retail outlets is for truckdrivers (not driver-salesmen) with large vans to deliver bakery products one or more times a day to each of the company's stores. These baked foods often are not wrapped and they are carted in enclosed metal racks with wheels. In this way, a very large assortment of fragile bakery products can be delivered to the display cases of the retail stores just as if they had been baked on the premises. Generally, chain grocery store bakeries do not employ driver-salesmen. Drivers deliver the bread and other bakery products in large trucks to the loading platform of individual stores. The display and stocking of the baking goods are done by the store clerks.

Administrative and Office Personnel. About one-sixth of the industry's work force is employed in administrative and managerial jobs and in office occupations. The business management of bakeries can be grouped in several broad classes: Handling the broad problems of management is the job of the officers and general administrators, or, in the case of small firms, the proprietors; plant managers, comptrollers, sales managers, and other executives direct individual departments or special functions of a large firm; administrative employees who specialize in particular business techniques such as accounting, advertising, purchasing, and personnel and industrial relations are also employed by baking firms. This last group is employed not primarily to supervise other workers but to carry on specialized business operations such as auditing accounts, preparing advertisements, and training new workers.

The business offices of bakeries employ many types of "officeworkers," including bookkeepers, cashiers, clerks, business-machine operators, stenographers, typists, and switchboard operators. A large percentage of the office workers are women.

Some of the larger companies have laboratories which employ chemists, home economists, and technicians to test ingredients and to prepare formulas for bread and other baked items.

Training, Other Qualifications, and Opportunities for Advancement

The different levels of qualification and kinds of training needed for jobs in the baking industry reflect the wide range of skills and knowledge needed to operate this basic industry. For example, some bakery workers can be trained on the job in a few days, whereas other personnel must have a college education.

Baking Processing Jobs. New workers for processing jobs are usually hired as helpers or laborers. Most of their training is given on the job. In many bakeries, all-round bakers and baking specialists learn their jobs through apprenticeship. Apprentices are generally selected from among the helpers in a plant. Employers usually require the apprentices to have a high school or trade school education, be between 16 and 26 years of age, have considerable manual dexerity, and show an interest in baking. The baking apprenticeship usually covers 3 or 4 years and includes training in different parts of the baking process. In addition to on-the-job training, classroom instruction

in subjects related to the trade may be given either in public or private vocational schools or in the plant. Some helpers are able to learn the work of baking specialists and even that of all-round bakers without an apprenticeship after they have spent several years observing and working with skilled bakers. One can also learn baking in a school. While completion of a vocational or armed service school baking course in itself will not qualify a person as a skilled baker, it may help a young person to obtain a baker's apprenticeship and may also shorten the apprenticeship period.

Bakers may be promoted to foremen, production managers, and eventually to plant superintendents. In addition, some all-round bakers are able to open up their own retail bakeries and go into business for themselves.

Maintenance Jobs. Skilled maintenance workers, such as maintenance mechanics, and electricians and auto mechanics, who have acquired their skills in other employment are sometimes hired directly by baking firms. However, many baking firms conduct some type of apprentice training to meet the needs of their maintenance shops. Other plants hire new workers as helpers to skilled maintenance employees. After gaining experience and know-how while working along with the skilled mechanics, these men are able to become skilled mechanics.

Sales Jobs. Persons with no previous sales training are often hired for jobs as driver-salesmen. Many firms prefer high school graduates with a pleasant appearance and with ability to meet and talk with people. Some large employers give aptitude tests to prospective employees to check for these qualifications. In some firms new workers are hired as stock clerks, packers, or checkers, and are promoted to driver-salesmen as vacancies occur. A new worker may first be given preliminary classroom instructions in general sales, display, and delivery procedures. Most of the training, however, is done on the job by route supervisors. Driver-salesmen may be promoted to route supervisors and sales managers. Many of the branch managers of some of the multiplant baking firms have risen from the ranks of salesmen.

Administrative and Office Jobs. Young persons who have completed a commercial course in high school, junior college, or a business school are usually preferred for openings as secretaries, stenographers, typists, bookkeepers, and business-machine operators.

Training and other qualifications for managerial personnel vary considerably among baking establishments. The responsibilities of managers of small firms are obviously quite different from those of high officials of large corporations. Many of the proprietors and production managers of small companies have risen from the ranks of baking craftsmen. Some of the executives in small and medium-size plants have come up from the lower graded office jobs. Many branch managers of multifirm bakeries have started their bakery careers in the sales department.

In recent years, increasing numbers of college-trained persons, especially those with degrees in business administration, are being employed by baking firms. Some companies look to these young college graduates as their future executives. Many of these persons have specialized in a particular administrative field such as marketing, accounting and finance, labor relations, personnel, or advertising. Several colleges offer courses in baking science and management; one college offers a 4-year course in this field. The curriculum includes courses in the principles of business administration as well as the scientific, technical, and practical phases of baking.

Employment Outlook

Continued further expansion in the baking industry is expected in the late 1950's and 1960's. Additional workers will be employed to help produce and distribute the larger quantity of baked

goods that will be needed to help feed our rapidly growing population. Because of the industry's constantly improving technology, employment will increase much less than the volume of business. Many job opportunities for new workers will arise from replacement needs.

As we look at the industry's record of past growth, the underlying trends that will bring about its future expansion become clear. There has been a long history of rising employment in the baking industry. In 1850, there was practically no wholesale distribution of perishable bakery products, and the baking industry had less than 10,000 employees. In the last half of the 19th century, the baking industry expanded tremendously. Demand for bakery products increased as homebaking declined and urban population grew. Bakeries began to be mechanized and grew larger. Employment in 1900 was more than eight times that of 1850. Continued expansion in bakery employment took place in the early years of the 20th century. Wholesale distribution of bakery products introduced at the end of the 19th century also greatly expanded. Wage and salary worker employment exceeded 100,000 in 1914 (chart 1). The growing population, the movement of population from farm to city, rising income, and the growing employment of women outside the home (chart 2) produced even greater demands for bakery products and expansion of the industry. By 1939, the number of bakery employees (including both those working for wholesale bakers and in single-shop retail bakeries) reached nearly a quarter of a million. Little or no increase in employment occurred during the World War II years. In the postwar period, employment has continued its upward trend, rising from 283,000 in 1947 to more than 325,000 in 1956.

Continued expansion of the baking industry is anticipated, although the rate of expansion may not be as rapid as in some of the previous periods. Many of the factors contributing to past growth will continue to operate. Probably the most important of these factors is our rapidly growing population and moreover, more of our population will live in cities and towns (bakery products are sold primarily in urban areas). A continuation of the trend toward less baking at home is expected as women spend more time away from home at work or in other activities.

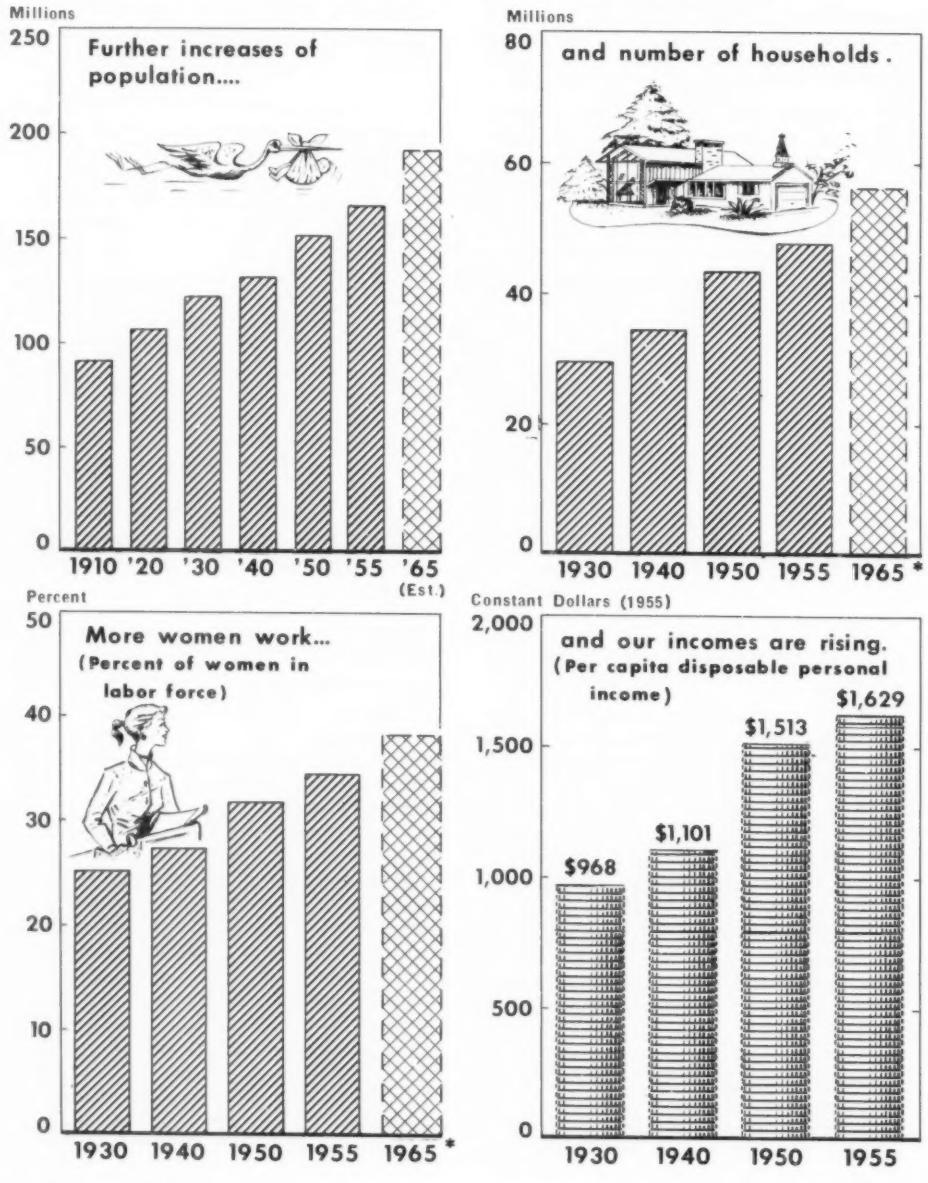
While employment in the industry is expected to expand, it will grow less rapidly than bakery output. Continued mechanization of baking and the trend toward large plants will result in the production of more baked goods per plant worker employed. It can be expected that there will be a continuation of the recent trends toward greater use of bulk handling of raw materials, larger and faster processing machines, more automatic instrument control of weighing and other operations, and further installation of conveyors and other materials handling equipment. Some bakery managers are studying the economic advantages of such processes as freezing, rapid defrosting, and extrusion. Freezing, for example, would enable bakeries to prepare pasteries and cakes on a mass-production basis, instead of 1 day's supply, with more continuous use of mixing machinery and less downtime for cleaning. Still primarily in the laboratory stage are the development of processes that make certain of the basic production steps automatic. Included among these is a process that eliminates the sponge step in doughmixing and another that involves the continuous mixing of cake batters.

As a result of increased mechanization, the number of plant workers actually declined somewhat between 1947 and 1954, while the administrative, sales, and supervisory employment together increased by nearly 25 percent, according to data from the Census of Manufactures.

Not only do these technological changes affect the number of plant employees but they also affect the kind of jobs they do. For example, some of the most physically demanding tasks in the industrial baking establishments are

Chart 2.

The baking industry will continue to grow because of . . .



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eliminated, particularly in materials handling, dumping of pans, etc. In the future, a higher proportion of the process workers will be bakers or baking specialists and there will be fewer helpers and laborers. This, of course, improves the job opportunities in the higher skilled, better paying jobs.

The many job opportunities for new workers which will arise from replacement needs have already been mentioned. In a field of employment as large as this one, annual replacement needs are very substantial. About 4 or 5 thousand bakery workers will die or retire each year and others will transfer to different fields of work.

The baking industry, because it is so vital to our daily living, offers a degree of job stability not found in many other industries. The industry is very little affected by business cycles, and it offers steady, year-round employment.

Earnings and Working Conditions

Anyone interested in working in the baking industry would like to know the pay he would earn and what kind of working conditions he might expect. Of course, the earnings a worker receives depends on the type of job he has. In general, earnings in the baking industry compare favorably with other industrial firms in the same community.

Earnings of bakery workers vary greatly by locality. In general, the larger the city, the higher the wage rate. Wage rates tend to be higher in the Far West and in the northeastern part of the country than in the South or Southwest. Weekly earnings of working foremen and all-round bakers in early 1957 typically ranged from $80 to $110 for a 40-hour week. Baking specialists were generally earning from $1.75 to $2.50 an houur. Apprentices usually start at about 50 percent of the journeyman (skilled worker) rate. In the course of the training, their wages are periodically increased, generally every 6 months, so that at the end of their apprenticeship, they are receiving the journeyman's pay.

Driver-salesmen are generally paid on a commission basis, often with a base pay plus a percentage of total sales. Generally driver-salesmen have a guaranteed minimum salary. In early 1957, weekly earnings for driver-salesmen generally ranged from $80 to $135 with those having the "very choice" routes making considerably more.

Baking is done around the clock in many plants and many plant employees work night shifts and on Sundays. Workers receive extra pay for working nights. The night-shift differentials generally range from 5 cents to 15 cents per hour. Plant workers are generally on a 40-hour week, although some work 44 or 48 hours regularly. Time and a half is paid for work over 40 hours per week.

Paid vacations for employees are almost universal in the industry. The vacation periods vary according to length of service, generally ranging from one to three weeks. Most baking firms have adopted some type of insurance or pension arrangements for their employees. Some provide life insurance plans, others have health insurance programs or retirement and pension plans. A large number of employees are covered by joint union-industry health and welfare plans and pension systems which are paid for entirely by employer contributions.

New employees in the baking industry will find that most plant workers and drivers belong to a labor union. They will discover also that wage rates, hours of work, vacations and other matters affecting their jobs are for the most part established by collective bargaining between the baking firms and the unions. Most bakers, baking specialists and other plant workers are members of the Baking and Confectionery Workers' International Union of America. Driver-salesmen and transport drivers are generally members of the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America. Some of the maintenance workers are members of craft unions such as International Association of Machinists and the International Union of Operating Engineers.

EARNINGS IN KEY OFFICE AND PLANT OCCUPATIONS IN 17 MAJOR CITIES, 1956-57

A broad summary of pay rates in the United States, as revealed by surveys of earnings in key office and plant occupations in 17 large metropolitan areas, was released recently by the Bureau of Labor Statistics. This report shows recent trends in pay rates, differences among the rates in the various occupations, and among parts of the country.

The 17 areas surveyed include 30 percent of all nonagricultural workers in the United States. The 17 metropolitan areas were New York, Boston, Buffalo, Philadelphia, and Pittsburgh in the Northeast; Atlanta, Birmingham, Memphis, and Dallas in the South; Chicago, Cleveland, Kansas City, and Minneapolis-St. Paul in the North Central region; and Los Angeles-Long Beach, Portland, Seattle, and San Francisco-Oakland in the West.

The occupations covered by the surveys were selected because they are found in a wide variety of industries, give employment to many workers, and represent a wide range of occupational fields. They include a few key occupations in each of the following groups: Clerical, professional and technical, maintenance and powerplant, and custodial and materials movement jobs. Some of the occupations included are listed below under the proper Census major occupational groups:

Clerical:
- Secretaries
- Stenographers
- Typists
- Switchboard operators
- Bookkeeping-machine operators
- Accounting clerks
- File clerks
- Payroll clerks
- Comptometer operators
- Key-punch operators
- Office girls

Professional and technical:
- Industrial nurses
- Draftsmen

Craftsmen:
- Maintenance carpenters
- Maintenance electricians
- Maintenance machinists
- Automotive mechanics
- Maintenance painters
- Tool and die makers

Operatives:
- Truckdrivers
- Power truckers (forklift)
- Helpers in maintenance trades

Service workers:
- Guards
- Watchmen
- Janitors

Laborers:
- Laborers, materials handling

Among the major findings were these:

1. Average pay increased by about 5 percent in 1956, after increasing at about the same rate in 1955.

2. Pay increased about 20 percent in the four years 1953 to early 1957.

Increases were very similar for all occupational fields. The occupational group with the smallest increase was women officeworkers, whose pay increased 19.7 percent; the largest increase, 21.5, was received by industrial nurses.

But there were substantial differences in the increases among the occupations studied in the different areas: The smallest increase in the 4-year period was 14 percent (maintenance men and unskilled workers in Boston); the greatest was 29 percent (unskilled men plant workers in Atlanta).

3. Pay levels were generally highest in western cities (Los Angeles-

Long Beach and San Francisco-Oakland) and in midwestern cities (Chicago and Cleveland). They were generally lowest in the South, especially in Memphis and Dallas.

Area differentials were much greater for plant workers than for office workers. Officeworkers in the highest paying area, Los Angeles-Long Beach, earned 26 percent more than those in the lowest paying area, Memphis. Wage rates of plant workers in the highest paying area, San Francisco-Oakland, were 46 percent greater than in the lowest paying area, Memphis.

The differentials were smallest for the skilled maintenance workers and greatest for the less skilled service workers (custodial) and material movement workers (laborers and operatives). Skilled workers in the highest paying area earned 23 percent more than those in the lowest paying area--about the same as the differential for office workers. The custodial and material-handling workers had differentials of 57 and 51 percent, respectively, between the lowest paying and the highest paying area. This suggests that an unskilled worker can improve his situation more by moving to a distant city than a skilled worker or an officeworker can; but one would want to know more about relative living costs, unionization, employment opportunities for Negroes, and other factors before packing his suitcase.

The following tables give the key information. Average earnings for officeworkers, plant workers, and draftsmen and industrial nurses are shown in tables 1, 2, and 3, respectively. Table 4 shows relative pay levels for the office and plant workers in the 17 areas, with the average for New York City arbitrarily represented by 100 and all other areas shown as percentages above or below the New York level.

In studying these tables, one must remember that each average represents a wide variation of pay rates. The rates for a single occupation vary from one industry to another in the area, and even within an individual plant or office. Particularly in the case of officeworkers, length of service has a considerable influence on individual pay rates.

* * *

Complete reports on the occupational wage surveys discussed in this article are available from the Superintendent of Documents, Washington 25, D. C., or from the BLS regional offices listed on page 2 . These bulletins are listed below:

Area	Survey date	Bull. No.	Price
Atlanta	April 1957	1202-16	25 cents
Birmingham	January 1957	1202-10	20 cents
Boston	September 1956	1202-4	25 cents
Buffalo	September 1956	1202-2	25 cents
Chicago	April 1957	1202-15	25 cents
Cleveland	October 1956	1202-3	25 cents
Dallas	October 1956	1202-5	25 cents
Kansas City	December 1956	1202-6	25 cents
Los Angeles-Long Beach	March 1957	1202-11	25 cents
Memphis	February 1957	1202-13	20 cents
Minneapolis-St. Paul	March 1957	1202-14	20 cents
New York City	April 1957	1202-17	25 cents
Philadelphia	November 1956	1202-7	25 cents
Pittsburgh	December 1956	1202-9	25 cents
Portland (Oreg.)	April 1957	1202-12	25 cents
San Francisco-Oakland	January 1957	1202-8	25 cents
Seattle	August 1956	1202-1	25 cents

TABLE 1: Average weekly salaries[1] in selected office occupations, 17 areas, winter 1956-57

Area	Bookkeeping-machine operators		Clerks, accounting		Clerks file, class B	Clerks, payroll	Comptometer operators
	Class A	Class B	Class A	Class B			
Northeast:							
Boston	$61.00	$52.50	$65.50	$52.50	$44.50	$59.00	$54.00
Buffalo	65.00	51.50	72.50	54.00	48.00	66.00	57.00
New York City	71.50	61.00	76.50	62.00	52.00	73.00	66.00
Philadelphia	64.00	53.50	68.50	55.00	45.00	61.00	58.50
Pittsburgh	68.50	53.00	74.50	59.50	49.50	72.00	62.00
South:							
Atlanta	62.00	56.00	71.00	55.00	45.50	62.00	59.00
Birmingham	67.00	51.00	73.00	57.00	50.00	63.00	54.00
Dallas	63.50	54.00	68.00	57.50	44.50	62.50	58.50
Memphis	62.00	51.50	64.50	52.50	46.50	58.50	52.50
North Central:							
Chicago	77.00	65.00	79.00	65.00	53.50	73.00	68.50
Cleveland	74.50	59.50	76.00	65.00	52.00	70.00	66.00
Kansas City	66.00	56.00	74.50	57.00	47.50	64.50	62.50
Minneapolis-St. Paul	66.50	55.50	71.50	55.50	47.50	63.00	59.50
West:							
Los Angeles-Long Beach	79.00	60.00	80.00	67.00	55.50	76.00	72.50
Portland	75.00	55.50	74.50	63.00	48.50	66.50	63.50
San Francisco-Oakland	76.00	60.00	77.00	65.00	52.50	76.50	69.00
Seattle	68.50	57.00	71.00	59.50	51.50	68.00	64.50

Area	Key-punch operators	Office girls	Secretaries	Stenographers, general	Switchboard operators	Typists	
						Class A	Class B
Northeast:							
Boston	$54.50	$45.00	$67.50	$58.50	$54.50	$55.50	$48.50
Buffalo	59.00	47.00	76.00	64.00	58.50	61.50	52.50
New York City	61.00	49.00	82.50	66.50	64.50	64.50	56.50
Philadelphia	58.50	44.50	74.00	60.50	57.00	58.00	49.50
Pittsburgh	61.00	48.00	79.00	65.50	61.00	61.00	52.00
South:							
Atlanta	56.00	46.50	73.00	61.00	53.50	56.00	48.50
Birmingham	59.00	50.50	72.50	62.50	53.00	63.00	51.00
Dallas	55.00	44.50	74.00	64.00	51.00	56.50	49.00
Memphis	57.00	43.50	65.50	56.50	44.50	55.50	45.50
North Central:							
Chicago	67.00	54.00	83.00	70.00	65.50	67.50	58.50
Cleveland	66.00	52.50	83.00	68.00	64.00	68.50	57.00
Kansas City	60.50	46.00	74.00	63.00	55.00	66.00	51.50
Minneapolis-St. Paul	54.50	45.00	72.00	60.50	58.50	56.00	50.50
West:							
Los Angeles-Long Beach	71.50	56.00	84.00	72.00	67.00	69.00	59.00
Portland	64.50	47.50	77.00	65.00	57.00	62.50	54.50
San Francisco-Oakland	65.50	56.00	82.50	71.00	66.00	66.00	57.00
Seattle	62.00	50.00	77.00	66.50	62.00	62.00	51.50

[1] Average weekly salaries are earnings based on hours for which employees receive their regular straight-time salaries.

TABLE 2: Average hourly earnings,[1] for men in selected plant occupations, 17 areas, winter 1956-57

Area	Carpenters, maintenance	Electricians, maintenance	Guards	Helpers, trades, maintenance	Janitors	Laborers, material handling	Machinists, maintenance
Northeast:							
Boston	$2.22	$2.32	$1.72	$1.83	$1.42	$1.61	$2.30
Buffalo	2.50	2.63	2.03	2.16	1.70	1.86	2.56
New York City	2.38	2.40	1.69	1.89	1.54	1.80	2.56
Philadelphia	2.48	2.47	1.68	2.05	1.49	1.72	2.55
Pittsburgh	2.50	2.66	2.15	2.09	1.68	1.96	2.71
South:							
Atlanta	2.08	2.41	1.93	1.63	1.17	1.42	2.30
Birmingham	2.50	2.66	1.82	2.04	1.30	1.51	2.89
Dallas	2.16	2.18	1.72	1.48	1.16	1.33	2.26
Memphis	2.13	2.37	1.80	1.33	1.14	1.32	2.43
North Central:							
Chicago	2.65	2.77	1.94	2.11	1.69	1.86	2.75
Cleveland	2.47	2.58	2.03	2.12	1.67	1.98	2.59
Kansas City	2.52	2.53	1.73	1.98	1.47	1.82	2.53
Minneapolis-St. Paul	2.58	2.66	1.93	2.05	1.57	1.94	2.58
West:							
Los Angeles-Long Beach	2.52	2.67	2.02	2.09	1.64	2.00	2.68
Portland	2.63	2.66	2.03	2.05	1.61	1.99	2.61
San Francisco-Oakland	2.70	2.71	1.85	2.20	1.81	2.07	2.70
Seattle	2.38	2.51	1.88	1.98	1.57	1.94	2.48

Area	Mechanics (automotive), maintenance	Painters, maintenance	Tool and die makers[2]	Truck-drivers	Truckers, power (forklift)	Watchmen
Northeast:						
Boston	$2.07	$1.96	$2.51	$1.98	$1.87	$1.42
Buffalo	2.26	2.23	2.69	2.13	2.07	1.61
New York City	2.30	2.18	2.69	2.47	2.26	1.65
Philadelphia	2.32	2.23	2.58	2.21	1.94	1.52
Pittsburgh	2.49	2.33	2.78	2.37	2.03	1.79
South:						
Atlanta	2.03	2.11	(3)	1.71	1.70	1.24
Birmingham	2.04	2.25	2.46	1.55	1.74	1.31
Dallas	1.97	2.04	2.43	1.63	1.61	1.20
Memphis	1.96	1.90	2.61	1.63	1.50	1.08
North Central:						
Chicago	2.59	2.75	2.92	2.38	2.08	1.31
Cleveland	2.43	2.35	2.71	2.28	2.09	1.60
Kansas City	2.31	2.56	2.73	2.04	2.04	1.50
Minneapolis-St. Paul	2.37	2.63	2.65	2.18	2.06	1.64
West:						
Los Angeles-Long Beach	2.46	2.41	2.78	2.26	2.14	1.72
Portland	2.42	2.63	(3)	2.19	2.08	1.72
San Francisco-Oakland	2.65	2.57	2.97	2.42	2.16	1.86
Seattle	2.43	2.39	2.72	2.25	2.04	1.73

[1] Average hourly earnings are straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] Other than in tool and die jobbing shop.

[3] Data insufficient to warrant presentation of averages.

TABLE 3: Average weekly salaries,[1] for draftsmen and industrial nurses, 17 areas, winter 1956-57

Area	Draftsmen (men)			Women industrial nurses
	Leader	Senior	Junior	
Northeast:				
Boston	$132.50	$100.50	$75.00	$73.00
Buffalo	136.50	108.50	78.00	82.00
New York City	149.00	117.00	78.50	86.00
Philadelphia	137.50	102.50	76.00	77.00
Pittsburgh	149.00	113.00	82.50	85.50
South:				
Atlanta	145.00	101.50	72.00	81.50
Birmingham	(2)	115.00	70.00	84.50
Dallas	114.00	88.50	70.00	77.50
Memphis	(2)	106.50	66.50	75.00
North Central:				
Chicago	133.50	115.00	81.50	83.50
Cleveland	126.50	109.50	80.00	83.00
Kansas City	(2)	104.50	79.00	81.00
Minneapolis-St. Paul	(2)	101.50	77.00	79.00
West:				
Los Angeles-Long Beach	141.50	103.50	83.00	89.00
Portland	(2)	101.00	83.50	74.50
San Francisco-Oakland	122.00	104.50	80.50	83.50
Seattle	109.50	94.00	73.00	83.00

[1] Average weekly salaries are earnings based on hours for which employees receive their regular straight-time salaries.

[2] No data or insufficient data to warrant presentation of averages.

TABLE 4: Relative pay levels for officeworkers[1] and plant workers,[2] 17 areas, winter 1956-57

(New York City level=100)

Area	Officeworkers			Plant workers			
	Total	Men	Women	Total[3]	Maintenance	Custodial	Material movement
Northeast:							
Boston	88	96	87	93	93	94	92
Buffalo	97	112	95	106	106	109	105
New York City	100	100	100	100	100	100	100
Philadelphia	92	101	91	99	103	96	98
Pittsburgh	99	115	97	110	109	112	109
South:							
Atlanta	90	96	89	81	91	77	79
Birmingham	93	105	92	87	104	84	80
Dallas	93	102	92	80	91	77	77
Memphis	85	98	83	78	91	75	75
North Central:							
Chicago	104	109	103	105	111	106	102
Cleveland	105	117	104	108	106	108	109
Kansas City	95	102	94	99	104	95	99
Minneapolis-St. Paul	91	100	90	103	105	103	103
West:							
Los Angeles-Long Beach	107	111	106	107	107	107	107
Portland	97	108	96	106	107	106	105
San Francisco-Oakland	105	109	104	114	112	118	113
Seattle	100	110	99	107	105	107	108

[1] These indexes are based on weekly salaries for the following occupations: Men--clerks, accounting, class B; order clerks; officeboys; tabulating-machine operators; women--billers, machine (billing); bookkeeping-machine operators, class B; comptometer operators; accounting clerks, class A; accounting clerks, class B; file clerks, class B; payroll clerks; key-punch operators; secretaries; stenographers, general; switchboard operators; typists, class A; typists, class B.

[2] The indexes for the various plant-worker groups are based on data for the following occupations: Maintenance--automotive mechanics, carpenters, electricians, machinists, mechanics (machine repairmen), and painters; custodial--guards, janitors, janitresses, and watchmen; material movement--forklift operators, material handling laborers, order fillers, shipping packers, shipping and receiving clerks, and truckdrivers.

[3] Total includes maintenance, custodial, and material movement plant workers.

DROPOUTS IN HIGH SCHOOL IN LARGE CITIES*

by David Segel
U. S. Office of Education

One of the major problems confronting the leaders of our Nation today is the potential future shortage of trained manpower. For educators, this problem has brought into sharp focus two important objectives with relation to American youth:

1. Encouraging youth to plan and follow with success educational programs which capitalize to the fullest on individual interests, aptitudes, and educational potentials.

2. Reducing to a minimum early school-leaving, which represents a serious loss to individuals as well as to society.

The first of these objectives suggests the need for strengthening secondary school programs and providing adequate guidance services. It was the second objective which, some 6 years ago, prompted the organization of school superintendents in large cities to ask the U. S. Office of Education to aid in setting up cooperative studies concerned with pupil needs and characteristics. After several conferences of representatives of the superintendents of schools in these large cities, it was decided to undertake a study of school holding power based upon a system of pupil accounting which was started with the beginning ninth-grade class of September 1951. The study follows this class through a 4-year period and accounts for all pupils who had entered or who had left the group studied for any one of many reasons including transfer. The data obtained covered 14 of the large city school systems, including the largest ones--New York City, Philadelphia, and Chicago.

The study was developed with two goals in mind: (1) To develop and validate a method for determining the percentage of dropout, grade by grade; (2) to secure further information on the retention rates and to relate each school system's own retention rate to all the cooperating large cities.

This article will describe briefly the procedures, findings, and conclusions of the study, and on the basis of these conclusions will offer suggestions for possible action by schools to aid young people in developing desirable educational programs and to encourage students to remain in school to complete these programs.

The method of determining dropout rates developed in the study will give a fairly accurate accounting of dropouts by grades if it is followed carefully. This new method was necessary because schools have been inclined to draw conclusions as to the nature of the school program on the basis of the inaccurate statistics generally gathered by the "survival rate method," by which a school counts the number of students entering the 9th grade and the number of these who complete the 12th grade and then computes the percentage of the former figure represented by the latter figure. This survival rate method produces erroneous conclusions regarding the holding power of a school and also presents an incomplete picture of the dropout rate.

What the present study did was to provide an accurate picture of retention by making an accounting of all students as the class went through from grade to grade--adding and subtracting and taking into account: Transfers between the various public high schools; students

*For a more thorough discussion of this subject, see Retention in High School in Large Cities, U. S. Department of Health, Education, and Welfare, Office of Education, Bulletin No. 15.

EARNINGS IN PRIVATE HOSPITALS, 1956-57

American hospitals employ well over a million persons, of whom slightly more than half are employed in private hospitals (including both profit-making and nonprofit institutions). To obtain current information on salaries and working conditions of private hospital employees, the U. S. Department of Labor's Bureau of Labor Statistics in cooperation with the Department's Women's Bureau conducted a survey in 16 large metropolitan areas in late 1956 and early 1957.[1] Almost 400,000 of the Nation's hospital workers are employed in the 16 areas, and three-fifths of these work in the private hospitals surveyed. The resulting data therefore provide a good indication of the levels of remuneration that may be expected by persons who choose to go into hospital work in one of the larger cities.[2]

Occupations representative of a wide range of skills were included in this survey: Various professional nursing occupations; other professional and technical positions; and selected occupations in office clerical, auxiliary nursing, maintenance, custodial, and other types of work. Professional nurses and other professional and technical workers together accounted for almost one-fourth of all employees in private hospitals in the areas studied; office clerical workers for a tenth; and other nonprofessional workers for about half the workers. The nonprofessional group included over 40,000 practical nurses and nursing aides, who outnumbered the approximately 35,000 professional nurses employed in these same hospitals.

Earnings

Substantial differences in pay among areas, particularly in nonprofessional occupations, were revealed by the survey. Differences also were found in the extent of supplementary benefits. However, there was no clear relationship between salary levels and extent of such benefits.

Average Salaries. The average salaries of general-duty nurses, the largest professional occupation studied, ranged from $56.50 a week in Philadelphia to $72 in Chicago and San Francisco; in a majority of the communities studied, salaries averaged from $60 to $68.50 weekly. Directors of nursing in the larger cities received salaries varying from an average of $95.50 a week in Baltimore to $120.50 in Minneapolis-St. Paul; and in a majority of the cities for which data were available, their salaries averaged between $101.50 and $112.50.

Tables 1 and 2 show the general level of earnings in other professional and technical jobs surveyed. In half the cities, women X-ray technicians below the level of chief, the lowest paid professional and technical group in most areas, averaged $57.50 to $67.50 a week. Men working as chief X-ray technicians, the highest paid of the nonnursing groups surveyed, averaged $88 to $102.50 in 6 of the 9 cities for which data were available.

Women payroll clerks--generally the highest paid officeworkers studied--averaged $56.50 to $65.50 a week in 7 of 13 cities. Switchboard operator-receptionists averaged $41 to $55 in a majority of the areas for which data were available. Stationary engineers earned an average of $1.69 to $2.10 an hour in a majority of the communities. Maids were generally the lowest paid of all the occupational groups surveyed, with earnings ranging from an average of 40 cents an hour in Memphis to $1.34 in San Francisco.

Pay Differentials. In evaluating the desirability of working in private hospitals, it is important to know the rel-

[1] The month in which each city was surveyed is shown in the list at the end of this article.

[2] Pay rates in government hospitals, which are not covered in this article, tend to be higher than those in private hospitals.

TABLE 1. Average straight-time weekly or hourly earnings for women in selected occupations in private hospitals in 16 metropolitan areas, 1956-57

Occupation	Atlanta	Baltimore	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Dallas
	Average weekly earnings[1]							
PROFESSIONAL AND TECHNICAL OCCUPATIONS								
Nursing:								
Directors of nursing	------	$95.50	$99.00	$98.00	$115.50	------	$111.00	$101.50
Supervisors of nurses	$76.50	71.00	73.50	76.00	86.50	$82.00	84.50	79.00
Head nurses	69.00	65.00	66.00	68.50	78.50	71.50	80.00	74.00
General duty nurses	57.50	62.50	60.50	60.00	72.00	63.00	68.00	65.00
Nursing instructors	------	------	74.50	76.50	87.50	74.50	84.00	73.50
Other professional and technical:								
Dietitians	66.50	71.50	69.50	63.50	85.00	75.00	80.00	72.50
Medical record librarians	71.00	69.00	66.00	74.00	78.00	86.00	82.00	82.50
Medical social workers	------	71.00	72.50	80.00	86.50	------	83.50	-------
Medical technologists	66.50	64.50	57.50	67.00	70.50	69.50	67.00	67.50
Physical therapists	------	63.50	61.50	66.00	75.50	81.50	70.50	-------
X-ray technicians, chief	------	------	75.50	------	86.00	------	-------	-------
X-ray technicians	56.50	55.50	57.50	62.50	69.00	63.00	61.00	67.50
NONPROFESSIONAL OCCUPATIONS								
Office:								
Clerks, payroll	------	54.00	56.50	59.50	67.50	60.50	65.50	-------
Stenographers, technical	------	49.00	55.00	52.00	65.00	57.50	63.00	-------
Switchboard operators	41.50	43.50	46.00	43.00	51.00	45.50	50.50	43.00
Switchboard operator-receptionists	------	32.00	43.50	36.00	46.50	41.00	-------	-------
Transcribing-machine operators, technical	------	50.00	50.50	54.00	62.50	54.50	53.50	51.00
Other nonprofessional:								
Housekeepers, chief	------	56.00	62.50	60.00	73.00	------	77.50	-------
Practical nurses	------	41.00	48.50	45.50	50.00	48.50	49.50	40.50
Nursing aides	31.00	31.00	39.50	31.00	42.50	35.50	39.00	29.50
	Average hourly earnings[2]							
Dishwashers, machine	------	$0.64	$0.97	------	$0.96	$0.88	-------	-------
Kitchen helpers	$0.54	.61	.92	$0.67	.92	.81	$0.91	$0.55
Laundry finishers, flatwork, machine	------	.61	.92	.86	.88	.86	.97	.65
Maids	------	.59	.91	.63	.91	.80	.91	-------

See footnotes at end of table 2.

TABLE 1. Average straight-time weekly or hourly earnings for women in selected occupations in private hospitals in 16 metropolitan areas, 1956-57 (Continued)

Occupation	Los Angeles–Long Beach	Memphis	Minneapolis–St. Paul	New York	Philadelphia	Portland (Oregon)	St. Louis	San Francisco–Oakland
	Average weekly earnings[1]							
PROFESSIONAL AND TECHNICAL OCCUPATIONS								
Nursing:								
Directors of nursing	$106.50	------	$120.50	$112.50	$111.00	$104.00	$109.50	$117.00
Supervisors of nurses	85.50	$74.50	88.00	86.00	70.50	80.50	81.00	86.00
Head nurses	76.50	65.00	81.00	74.00	63.00	73.50	70.50	77.50
General duty nurses	71.00	57.50	68.50	67.50	56.50	67.50	64.00	72.00
Nursing instructors	82.50	71.00	82.50	82.50	72.00	------	72.00	92.00
Other professional and technical:								
Dietitians	76.00	70.50	80.00	72.00	68.50	77.50	70.00	79.00
Medical record librarians	81.50	------	79.00	83.50	68.00	78.50	72.50	82.00
Medical social workers	82.50	------	-------	86.00	61.50	-------	-------	84.00
Medical technologists	81.50	65.00	77.50	65.00	56.00	71.50	64.00	80.00
Physical therapists	80.00	------	86.00	70.00	67.50	79.00	75.50	78.00
X-ray technicians, chief	------	------	74.50	81.50	63.50	-------	-------	88.00
X-ray technicians	73.50	54.00	58.00	66.00	56.00	74.50	65.50	73.50
NONPROFESSIONAL OCCUPATIONS								
Office:								
Clerks, payroll	67.50	------	59.00	59.50	52.50	64.00	56.00	75.00
Stenographers, technical	70.00	------	63.00	61.00	51.00	66.00	57.00	72.50
Switchboard operators	54.50	38.00	52.50	49.50	42.00	52.00	43.00	62.00
Switchboard operator-receptionists	56.00	------	55.00	43.00	41.00	-------	43.50	59.00
Transcribing-machine operators, technical	66.50	48.00	57.50	57.50	51.00	-------	49.50	69.50
Other nonprofessional:								
Housekeepers, chief	74.50	------	72.00	70.00	63.50	64.00	63.50	82.50
Practical nurses	52.50	38.00	54.00	51.50	35.50	50.00	39.50	57.00
Nursing aides	47.50	29.50	52.00	35.00	27.50	45.50	31.00	57.00
	Average hourly earnings[2]							
Dishwashers, machine	$1.16	------	$1.31	-------	$0.69	$1.08	$0.68	$1.33
Kitchen helpers	1.06	$0.45	1.32	$0.85	.67	1.16	.69	1.31
Laundry finishers, flatwork, machine	1.12	.48	1.36	.87	.60	1.16	.69	1.40
Maids	1.10	.40	1.32	.85	.60	1.11	.65	1.34

See footnotes at end of table 2.

TABLE 2. Average straight-time weekly or hourly earnings for men in selected occupations in private hospitals in 16 metropolitan areas, 1956-57

Occupation	Atlanta	Baltimore	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Dallas
	Average weekly earnings[1]							
Professional and technical occupations:								
Medical technologists	------	-------	$64.50	$67.50	$75.00	------	$ 74.00	------
X-ray technicians, chief	------	$117.50	88.00	------	87.50	------	102.50	------
X-ray technicians	------	54.50	53.50	69.50	72.50	------	67.00	$62.50
Nonprofessional occupations:								
Nursing aides	-------	35.00	45.00	41.00	46.50	42.50	48.50	38.00
Practical nurses	------	-------	44.50	------	52.00	------	-------	------
	Average hourly earnings[2]							
Dishwashers, machine	------	$0.66	$1.00	$0.60	$0.84	$0.97	$1.02	------
Electricians, maintenance	------	1.56	1.85	------	2.00	2.21	2.03	------
Engineers, stationary	------	1.65	1.69	1.62	1.95	2.08	2.10	$1.72
Kitchen helpers	$0.60	.64	1.03	.64	.96	.91	1.04	.62
Porters	.69	.72	1.04	.84	.94	.97	1.12	.81
Washers, machine	------	.98	1.35	1.22	1.25	1.26	1.48	.99

Occupation	Los Angeles–Long Beach	Memphis	Minneapolis–St. Paul	New York	Philadelphia	Portland (Oregon)	St. Louis	San Francisco Oakland
	Average weekly earnings[1]							
Professional and technical occupations:								
Medical technologists	$81.50	------	------	$ 65.50	$61.50	$72.50	$69.00	$ 81.50
X-ray technicians, chief	93.50	------	$95.00	102.50	------	------	85.50	102.50
X-ray technicians	76.00	------	61.00	66.50	56.50	72.50	73.50	82.00
Nonprofessional occupations:								
Nursing aides	51.50	------	56.00	39.00	32.00	51.00	38.50	62.00
Practical nurses	57.00	------	------	52.50	44.50	------	43.50	------
	Average hourly earnings[2]							
Dishwashers, machine	$1.19	------	$1.42	$0.84	$0.71	$1.25	$0.83	$1.43
Electricians, maintenance	1.81	------	------	1.73	1.58	------	1.53	------
Engineers, stationary	2.03	$1.65	2.22	1.99	1.46	2.27	2.05	2.26
Kitchen helpers	1.15	.52	1.41	.88	.67	------	.81	1.31
Porters	1.23	.59	1.42	.86	.68	1.27	.86	1.44
Washers, machine	1.45	.81	1.63	1.11	.98	1.53	1.07	1.49

[1] Regular straight-time salaries. Averages are rounded to the nearest 50 cents. Extra pay for evening and night shifts is excluded, as is the cash value of room, board, or other perquisites provided in addition to cash salaries.

[2] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts, as well as the cash value of room, board, or other perquisites provided in addition to cash pay.

ative financial benefits in the various jobs as well as the actual amount of average earnings. Among professional workers, directors of nursing, the highest paid workers surveyed in most areas, earned from about 50 to almost 100 percent more than general-duty nurses (55 to 65 percent in about half of the communities). Men working as chief X-ray technicians were usually second in the pay scale. Generally, supervisors of nursing, and often nursing instructors as well, ranked next to directors of nursing and men chief X-ray technicians, followed in order by women medical social workers, medical record librarians, and chief and staff dietitians. Next came physical therapists, head nurses, and medical technologists. Women X-ray technicians, excluding chiefs, were most frequently the lowest paid of the professional and technical workers studied; however, general-duty nurses were the lowest paid in some communities. Salaries of men X-ray technicians, excluding those occupying the position of chief in large hospitals, were also relatively low.

Although professional workers on the average earn substantially more than nonprofessionals, the survey showed that there is some overlap in their pay scales. Average earnings in the lowest paid professional and technical occupations in some areas were exceeded by those of the highest paid office occupations surveyed, and pay for occupations at the bottom of the professional and technical scale was typically less than 10 percent above that of women payroll clerks and technical stenographers. Stationary engineers earned more per hour than head nurses in a majority of the areas and more than supervisors of nursing in a few areas.

Within the nonprofessional category, women practical nurses typically earned about 20 to 40 percent more than nurses' aides. In 3 areas, earnings of the women aides were virtually identical with those of women kitchen helpers, and in half of the cities they were 8 to 12 percent higher.

Intercity Differences in Pay Levels. The pattern of intercity differences in hos-

TABLE 3. Variation in earnings[1] in private hospitals among 16 metropolitan areas, by occupational group,[2] 1956-57

(New York, N. Y. = 100)

Occupational group[2] and sex	Atlanta	Baltimore	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Dallas
Nursing (women)	81	90	89	88	106	94	102	96
Other professional and technical (women)	84	91	86	93	104	102	99	101
Office (women)	84	83	90	87	102	92	100	98
Other nonprofessional:								
Paid by the week:								
Women	80	82	105	86	107	99	106	82
Paid by the hour:								
Men	74	82	113	88	107	110	122	87
Women	61	70	107	79	107	95	108	71

Occupational group[2] and sex	Los Angeles–Long Beach	Memphis	Minneapolis–St. Paul	New York	Philadelphia	Portland (Oregon)	St. Louis	San Francisco–Oakland
Nursing (women)	104	84	103	100	84	99	94	106
Other professional and technical (women)	111	88	109	100	85	104	91	111
Office (women)	111	79	103	100	84	103	87	121
Other nonprofessional:								
Paid by the week:								
Women	122	75	131	100	73	117	82	142
Paid by the hour:								
Men	130	70	154	100	79	138	98	151
Women	128	50	155	100	74	133	79	157

[1] Weekly earnings, except for occupations generally paid on an hourly basis.

[2] The occupational group average for each city was obtained by weighting the average for the occupation in the city by the total number of workers employed in the occupation in all cities.

pital pay appears to be consistent in most respects with interarea differences in industry pay rates in general, although the variation among cities in salaries of nonprofessional hospital workers (other than office) appears to be proportionately greater than for plant workers in industry. As already indicated, the level of earnings varied substantially among communities.

San Francisco generally stood first in terms of average pay for hospital employees: Pay levels in this city were equaled in the case of women nurses by Chicago and in the case of other women professional and technical workers by Los Angeles (table 3). At the time of the survey, Minneapolis-St. Paul ranked slightly ahead of San Francisco in earnings of men nonprofessional workers paid on an hourly basis. (This ranking was affected by the fact that a pay raise had been put into effect for these workers in Minneapolis just before the study, which was conducted later than the San Francisco survey.) Minneapolis-St. Paul ranked third in pay levels for women professional nurses and second in earnings of other groups except women officeworkers. Rates in Portland (Oregon) and Los Angeles, as well as in San Francisco, were also among the highest for all occupational groups.

Lowest salaries for nurses and other professional women workers were reported in Atlanta and Philadelphia; Boston and Memphis ranked only slightly higher in remuneration for these workers. Memphis also ranked lowest of all 16 cities in the pay of office and of nonprofessional workers typically compensated on an hourly basis, with Baltimore, Atlanta, and Philadelphia standing next for officeworkers. Lowest average pay for women in nonprofessional jobs such as practical nurses and nursing aides was recorded in Philadelphia. Pay for these occupations was only slightly higher in Memphis.

The intercity variation in earnings was proportionately much smaller for professional and technical and office jobs than it was for other nonprofessional jobs, again following the pattern in industry generally. Hospital pay for women nonprofessional workers paid on an hourly basis was more than 200 percent higher in the city with the highest earnings than in the city with the lowest pay. The differential was more than 100 percent for hourly paid men nonprofessionals and almost 100 percent for women in nonprofessional jobs paid by the week or month. For nursing and other professional and technical occupations, the intercity range amounted to about 30 percent of the lowest city average; for office occupations, it was about 50 percent.

Provision of Meals and Rooms

A significant proportion of private hospitals provided their employees with one or more meals a day in addition to their cash pay, and some also provided rooms. Provision of such perquisites varied appreciably among areas; provision of rooms and meals tended to be more common in the areas with realtively low cash salaries. There were some exceptions; for example, Chicago hospitals, with above average pay, provided supplementary meals for a substantial proportion of their nonprofessional workers.

In most areas, proportionately more kitchen workers received meals than workers in other occupations. There was also a tendency in a majority of the areas to supplement the pay of the lowest paid workers within an occupation by perquisites more frequently than was done for the higher paid workers. For example, in Baltimore all supervisors of nurses paid less than $60 a week received at least 2 meals a day in addition, and half of these received their room and meals; on the other hand, more than 2 out of 5 of all supervisors received no such benefits. Few workers at any pay level received such benefits in Portland and Minneapolis, and--except for kitchen

help--in Atlanta, Cleveland, San Francisco, and Los Angeles. Most commonly the perquisites consisted of one meal a day. However, 2 or 3 meals were typical for kitchen helpers in most areas; and in a few cities, they were also more common than 1 meal daily for other nonprofessional workers as well.

Some hospitals offered meals and living quarters that their employees could pay for by means of payroll deductions. However, most hospital workers did not rent rooms, and the extent to which meals were purchased in this way varied among areas. Charges for rooms, where reported, varied considerably among areas as well as within areas; the rent that nurses paid for a single room generally ranged from $10 to $30 a month. Most meal charges were from 30 to 65 cents a meal. Uniforms and laundry of uniforms were also provided some private hospital employees.

Work Schedules and Overtime Pay

A 40-hour week was in effect for the vast majority of employees in private hospitals in most areas studied. Only in Atlanta were a majority of nurses on a longer workweek, and only in that city and Memphis were a majority of other white-collar workers--those in professional and office jobs--on longer workweeks. In 5 cities, a majority of nonprofessional workers (other than office) were on a workweek in excess of 40 hours. Those not on a 40-hour week typically worked 44 to 45 hours, although some schedules in a few cities were shorter than 40 hours and some workers were on 42- or 48-hour weeks. In Dallas, a few nonprofessional workers had scheduled workweeks of 50 hours.

Typically, hospital workers received compensation for work in excess of their weekly hours, most often straight-time pay, although a substantial minority received equal time off and some were paid time and one-half. In Portland, equal time off was more common than straight-time pay for nonprofessional workers. In San Francisco, almost all workers received time and one-half for overtime; this provision applied to a fifth of the nurses in Philadelphia and to a third of those in Minneapolis. Substantial groups of employees in Chicago, Minneapolis, Philadelphia, Portland, and New York also were paid time and one-half for weekly overtime. In Minneapolis, overtime pay was provided most nonprofessional workers for working more than 80 hours in 2 weeks.

* * *

Information on salaries and working conditions in Government hospitals and fuller details on private hospitals are presented in the following Bureau of Labor Statistics bulletins which may be ordered from the Superintendent of Documents and the Bureau of Labor Statistics regional offices (at the addresses given on page 2).

Bulletin Nos.	Earnings and Supplementary Benefits in Hospitals in --	Price
1210-1	St. Louis, Mo., June 1956, 20 pp.	20 cents
1210-2	Portland, Oregon, May and July 1956, 20 pp.	20 cents
1210-3	Buffalo, N. Y., June 1956, 20 pp.	20 cents
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